MR. CHAIRMAN: Please ask a supplementary question on this question.

SHRI G.N. RATANPURI: Sir, Assam is also a militancy-affected area. I would like to know whether the Government is making efforts to dispel exaggerated concerns.

MR. CHAIRMAN: All right.

KUMARI SELJA: Sir, definitely whenever our promotions are taking place abroad, we are taking care that our marketing is also focused on the north-eastern region, on Kashmir and all parts of the country. We have to promote the beauty of our north-eastern region, the beauty of Kashmir and our culture, and we are doing it constantly.

SHRI SANTOSH BAGRODIA: Thank you very much, Mr. Chairman. I straightaway ask this question to the hon. Minister, through you, Sir. How many Government employees have made use of the leave travel concession which has been given? Or there has been no effort made by any employees to avail this? What kind of special security is being provided to the tourists in different parts of Assam?

KUMARI SELJA: Sir, I will be able to supply to the hon. Member the exact figures later.

DR. K. MALAISAMY: Sir, from the figures, it is seen that tourist traffic has not been on the decrease. Had there not been naxalism, insurgency or Maoism, would it not be much better? What I am trying to ask is, the tourist traffic would be much better if this kind of challenges were not there.

KUMARI SELJA: Sir, I definitely agree that we do need a more peaceful atmosphere throughout the country to have better increase in tourist traffic and, I think, all of us have to work towards that.

MR. CHAIRMAN: Next question. ...*(Interruptions)*... We have already finished three. ...*(Interruptions)*... No, no, please. ...*(Interruptions)*... I am afraid there are other Members from the North-East also. ...*(Interruptions)*... Mr. Sarkar, please resume your place. ...*(Interruptions)*... Question No.402.

CSIR Laboratories

*402. SHRI RAHUL BAJAJ : Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state Government's thinking on the Nobel Laureate Venkataraman Ramakrishnan's suggestion to embed Council of Scientific and Industrial Research (CSIR) laboratories in our universities?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI PRITHVIRAJ CHAVAN): A Statement is laid on the Table of the House.

Statement

CSIR in pursuance of its mandate for scientific and industrial research has established close linkages with the University system for basic and applied research. Many academic institutions have their campuses or facilities co-located alongside CSIR Laboratories. Examples include the Indian

Institute of Science Education and Research (IISER) which functions from National Chemical Laboratory (NCL) campus, Pune; Jadavpur University adjoining Central Glass and Ceramic Research Institute (CGCRI) and Indian Institute of Chemical Biology (IICB), Kolkata; Birla Institute of Technology & Science (BITS) adjoining Central Electronics Engineering Research Institute (CEERI), Pilani. A list of CSIR Laboratories co-located or adjoining academic institutions is enclosed as Statement (*See* below).

Further, educational institutions like National Institute of Pharmaceutical Education and Research (NIPER) at Hyderabad, Kolkata and Rai Bareli are presently mentored through CSIR Laboratories, Indian Institute of Chemical Technology (IICT), Indian Institute of Chemical Biology (IICB) and Central Drug Research Institute (CDRI), respectively.

In order to encourage research in Universities, CSIR funds research projects in Universities. The students from various Universities come to CSIR laboratories for undertaking research. Also, over 2000 CSIR Scientists in various Laboratories teach courses and guide students for obtaining M.Sc., B.Tech., M.S. and Ph.D. in association with Universities in specialized areas. CSIR will continue to reinforce and build further linkages with Universities and Educational Institutions.

Statement

Location of CSIR constituent Laboratories vis-a-vis University/ Academic Institution/Industry

a) Academic Institutions Co-located with CSIR Laboratories

CSIR Laboratory	Academic Institution
1	2
Central Building Research Institute, Roorkee	Indian Institute of Technology, Roorkee
Central Electrochemical Research Institute, Karaikudi	Algappa University, Karaikudi
Central Electronics Engineering Research Institute, Pilani	Birla Institute of Technology and Science, Pilani
Central Leather Research Institute, Madras	Indian Institute of Technology, Madras
Central Mechanical Engineering Research Institute, Durgapur	National Institute of Technology, Durgapur
Institute of Genomics & Integrative Biology, Delhi	Delhi University
Institute of Himalayan Bioresource Technology, Palampur	Himachal Agriculture University
Indian Institute of Chemical Biology, Kolkata	Jadavpur University, Kolkata

1	2
National Chemical Laboratory, Pune	Indian Institute of Science Education and Research
Advanced Materials and Processes Research Institute, Bhopal	Baraktulla University, Bhopal
b) Laboratories nearby Academic Institutions	
Centre for Cellular and Molecular Biology, Hyderabad	Osmania University, Hyderabad
Central Drug Research Institute, Lucknow	University of Lucknow
Central Food Technological Research Institute, Mysore	Mysore University
Central Glass and Ceramic Research Institute, Kolkata	Jadavpur University, Kolkata
Indian Institute of Chemical Technology, Hyderabad	Osmania University, Hyderabad
Indian Institute of Integrative Medicine, Jammu Tawi	Jammu University
Institute of Microbial Technology, Chandigarh	Panjab University, Post Graduate Institute of Medical Education and Research, Chandigarh
Indian Institute of Toxicology Research, Lucknow	University of Lucknow
National Botanical Research Institute, Lucknow	University of Lucknow
Structural Engineering Research Centre, Chennai	Indian Institute of Technology, Madras

SHRI RAHUL BAJAJ: Sir, my supplementary is this. I am happy to learn from the reply of the hon. Minister that CSIR has established very close linkages with the University system and they fund research projects in Universities and they will continue to do so. This is very good. But, Sir, we know our Universities are essentially teaching Universities and there also the quality is under debate and hardly any research is done. Can we learn from the American Universities, for example, Sir, the University of California manages the Lawrence Berkeley National Lab and the University of Chicago manages the Argonne National Lab? There are many others, which manage national labs. Can we further deepen this cooperation between the CSIR Laboratories and the Universities? We have a lot to learn. Today, in the days of science and technology, I do not think enough is being done. The reply gives only indication of where the Universities are located, etc. But much more needs to be done. What is being attempted to be done is my first supplementary.

SHRI PRITHVIRAJ CHAVAN: Sir, the hon. Member is right. The model followed in the United States is quite little different from what we follow. As we have replied in our main question, Sir, many of the CSIR labs are very closely, physically located and there is very close interaction between the CSIR Labs and Universities. We have a list of some of the broad areas of cooperation. Nearly 100 projects are sanctioned by the CSIR in Universities. Our CSIR laboratories are recognised by several Universities to grant PhDs. The CSIR conducts the National Eligibility Test, NET, along with the UGC which selects people for Joint Research Fellowships and Senior Research Fellowships are awarded and Universities faculties are part of our Research Councils, talks and lectures are given by CSIR scientists in Universities and vise-a-versa and the CSIR also gives partia travel grant to researchers in Universities because there is a lack of funds. We are further cementing the relationship. For example, the scientists who work in Delhi take their degrees from Pune University. Therefore, the degree-giving function is still with the Universities but there is a closer interaction increasing. I take the point that we need to further bring the synergy between the Universities and the CSIR labs.

SHRI RAHUL BAJAJ: Sir, now I put my second supplementary. I am very happy to get the answer that the Government is conscious of the need for much better interaction to provide much more vigour to scientific research in the country, Sir. What are you doing, because I think, much more needs to be done, to increase the interaction between the academia, that is, CSIR and Universities on the one hand and industry on the other?

SHRI PR1THVIRAJ CHAVAN: Sir, the hon. Member is right. The CSIR system was conceived with a vision of late Pt. Jawaharlal Nehru who wanted to build a scientific temper in the country. This is a thought process of the 1950s where the private sector industry had no capability or no appetite for research and they did not have money also. Therefore, in the early days there were successes in the mechanical engineering field. I can list earlier successes over the period. For example, you are very familiar with Pune automotive sector and all that. They are doing a lot of research. The example of Nano car design engineering is an outstanding example. Sir, in the engineering field, the contribution of the CSIR labs has lagged behind in recent years. This is a fact. But, Sir, am very happy to inform the House that in the area of life sciences, particularly in the newer fields of genetic engineering and biotechnology not only there is tremendous mutual respect between the industrial world, the pharma research companies, and the labs but the whole huge new synergy is found. Every single major multinational corporation in the world is now coming to the public funded research labs in the field of pharma, life sciences, and biotechnology. Sir, I announced in the House recently that the Indian scientists in the CSIR labs decoded the first human genome. It is a great achievement for our country. So, I take your point about the mechanical engineering side and automative industry, particularly, that we need to strengthen relationship between the public-funded research labs including the CSIR and industry, but we are doing very well in the areas of life science.

SHRI A. VIJAYARAGHAVAN: Sir, as far as the scientists of India are concerned, they are going all over the world and doing a very positive research, and we have good results from that. That is revealed by the Nobel-laureate Dr. Venkatraman Ramakrishna's achievement. Sir, while we are discussing about the use of CSIR labs by our Universities, it is unfortunate to note that inside the institution, that is, the CSIR, we are not promoting sufficient research work. This is a very strange situation inside the Institution. It is always under the cloud. Even the top brass of the Institution are. So, I would like to suggest that the academic career inside the CSIR has to be improved. So far, there are no proper research facilities or academic freedom inside the CSIR. There are so many complaints about the autonomy inside the Institution. The scientists who submit the project do not get the same project because the top brass is distributing to some other scientists. If a scientist gives a research project, it goes to the Head, and he gives it to some other person. So, naturally, the individual initiative is aiso not there. In such a situation, there is an urgent need for changing the existing system. So, will you consider a new system inside the CSIR to ensure more transparency inside the system and to ensure more positive research, career promotion and advancement schemes in the Institution?

SHRI PRITHVIRAJ CHAVAN: Sir, I will, respectfully, beg to differ from the perception of the hon. Member that not enough research is going on in CSIR labs. All the 37 labs of the CSIR system are dedicated to doing front-line research work and also appropriate research work as is relevant to our strategic sector and also the industrial sector. I can recount the successes of the CSIR but I will not take the time of the House. There are research councils where academicians from universities and-other fields, strategic areas are on board who select projects very carefully. Sir, many projects are received in the laboratory. Every project cannot be sanctioned. We have to realise what the impact of that innovation would be on society. Science can solve the problem of common man. While basic and fundamental research is also important, the role of CSIR is more towards doing applied research. There are other labs in the system of Department of Science and Technology and the Department of Bio-technology which are focused more on basic research. But, the CSIR is, necessarily, doing research work and I can give you the examples. About 10 out of 12 new drugs invented in India come from the CSIR. We have the maximum research output than any other organisation in the country. Sir, we produce Ph.Ds and research scholars in hundreds. I can give you all the numbers. The CSIR is playing a major role as a leading public sector research organisation. That is why, Prime Ministers, right from the time of Pandit Jawaharlal Nehru to the present Prime Minister are themselves the Presidents of the CSIR Society. They are not the Presidents of any other Society that I know of. I assure you that the valuable suggestions that the hon. Member has made will be factored in our future work.

DR. (SHRIMATI) NAJMA A. HEPTULLA: Sir, I am very happy to say that I have been a junior fellow of the CSIR, I have been a senior fellow of the CSIR for the Ph.D and was also in the scientists'

pool. I know that the CSIR is an extreme Institution which was created soon after Independence. Sir, there are a lot of indigenous technologies and knowledge which we have in our country. I would be very happy if the Hon. Minister will let us know what we are doing to utilise the indigenous knowledge and technologies of the ancient time to implement them in today's modern life, as a lot of work is being done on plant life and other things.

SHRI PRITHVIRAJ CHAVAN: Sir, the hon. Member has raised a very important issue. India is an old civilization and we have a great tradition of science. I shall give you one example of what we have done, which is being lauded throughout the world.

As you are aware, Sir, there are different systems of medicine in India such as Ayurveda, Unani, Tibetan and Chinese medicine in border areas, and many other systems which are worked and practised in India. And this knowledge is being captured by the Western countries to create patents out of this knowledge and then these drugs and medicine are sold to us at a higher price. We had the famous haldi battle where drug created out of turmeric was sought to be patented. We fought the battle and won. After that, we learnt our lesson. One of the1 major programmes in the world, which has- been lauded by the world, has been taken up by the Department of AYUSH, Ministry of Health, and CSIR; we created the Traditional Knowledge Digital Library. Every single medicine and medicinal practice, even grandmother's medicines, has been logged; it has been translated in five international languages as a traditional knowledge of India. And, therefore, nobody can use this knowledge and patent it to get any commercial benefit out of it. And, I am very happy to inform the House, that this particular project, which is called TKDL, the Traditional Knowledge Digital Library, was given to the US Patent Office when an agreement was singed during the recent visit of our Prime Minister; DG, CSIR signed it with the head of the US Patent Office, which said that we have granted access to this Library, which we have created, so that they can search for and grant patents on traditional knowledge, not only in (ndia but rest of the developing world and not grant commercial benefit to any multinational company. And we are willing to offer this technology, which our scientists have developed in India to the entire developing world. This is one example of what we have done.

SHRI ASHWANI KUMAR: Sir, we know that CSIR is one of the premier research institutions of this country, and it has done yeomen service as far as R&D activity in this country is concerned. But, Sir, three issues have recurred time and again in this debate. One, to incentivise research, how do we share the fruits of our research in terms of ownership of patents? Would the ownership of patents belong to the individual scientists who work for CSiR, or would they belong to CSIR or would they be shared? There is ambiguity in this. Time and again, individual scientists of CSIR who have devoted a life-time researching remain with a sense of grievance that they have not been able to reap the benefits of their work.

Sir, the second issue is the perennial issue of very inadequate funding by the Government in terms of our GDP to premier research. And the third is, Sir, how do we translate the benefits of the research through patents to actual industry-use. There have been these three issues. Will the Minister kindly answer these questions and tell us how he seeks to address these shortcomings?

SHRI PRITHVIRAJ CHAVAN: Sir, the first question is, how the intellectual property created out of research is shared. I would like to inform the House that we have now a much more innovative system where the benefits of research, any intellectual property created and the resultant benefits, are shared. The scientist gets a proportional part; the lab gets a proportional part and the nation gets a proportional part. It is a very innovative system which is working very well. We shall further improve upon it and we are open to suggestions.

Then, Sir, the hon. Member has talked about the money that we spend on research. Currently, the nation spends about one per cent of its GDP on research. Seventy-five per cent of that money spent on research comes from the Government and only 25 per cent comes from the public sector. The hon. Prime Minister had publicly announced that we intended to double the spending on R&D from one per cent of the GDP to two per cent of GDP. I think, the recent slowdown has definitely affected it but we have objectives in place and our aspiration is to double the spending on R&D. But, through the House, I would like to appeal to the private sector that they must also increase their spending on R&D. They must employ more Ph.Ds so that we really become a nation which leads through innovations.

सूचना प्रौद्योगिकी उद्योग का सामाजिक दायित्व

*403. **श्री शिवानन्द तिवारी** :

श्री राज मोहिन्दर सिंह मजीठा : ††

क्या **संचार और सूचना प्रौद्योगिकी** मंत्री यह बताने की कृपा करेंगे कि:

(क) क्या यह सच है कि सूचना प्रौद्योगिकी उद्योग द्वारा सामाजिक दायित्व निर्वहन के लिए किये जा रहे प्रयास आवश्यकता के अनुसार नहीं पाये जा रहे हैं;

(ख) यदि हां, तो इस संबंध में सरकार की क्या प्रतिक्रिया है;

(ग) क्या यह भी सच है कि सूचना प्रौद्योगिकी उद्योग और उससे संबंधित सेवाओं में कार्यरत लोगों में से 54 प्रतिशत लोग लम्बी बीमारियों व जीवन-यापन शैली से उत्पन्न बीमारियों से ग्रस्त हो रहे हैं;

(घ) यदि नहीं, तो इस संबंध में तथ्य क्या है; और

(ङ) क्या सरकार वर्तमान स्थिति में सुधार करने के लिए कोई दिशानिर्देश जारी करेगी?

संचार और सूचना प्रौद्योगिकी मंत्री (श्री ए. राजा): (क) से (ङ) एक विवरण सभा पटल पर रख दिया गया है।

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†† सभा में यह प्रश्न श्री राज मोहिन्दर सिंह मजीठा द्वारा पूछा गया।